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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/643,912 08/23/00 ASAMI

K 001062

023850 QM02/0420
ARMSTRONG, WESTERMAN, HATTORI,
MCLELAND & NAUGHTON, LLP
1725 K STREET, NW, SUITE 1000
WASHINGTON DC 20006

EXAMINER

NGUYEN, T

ART UNIT

PAPER NUMBER

3748

DATE MAILED:

04/20/01

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/643,912

Applicant(s)

Asami et al.

Examiner

Tu M. Nguyen

Group Art Unit

3748



Responsive to communication(s) filed on _____.

This action is FINAL.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

Claim(s) 1-4 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

Claim(s) 1-4 is/are rejected.

Claim(s) _____ is/are objected to.

Claims _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on _____ is/are objected to by the Examiner.

The proposed drawing correction, filed on _____ is approved disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code/Serial Number) _____.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because of the use of open ended phrase "comprise". Correction is required. See MPEP § 608.01(b).
2. The disclosure is objected to because on page 14, line 3 from the bottom, "changed" should read --charged--. Appropriate correction is required.

Claim Objections

3. Claim 3 is objected to because on page 18, the second line from the bottom, "the stored" should read --stores the--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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5. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamazaki et al. (U.S. Patent 6,032,753).

Re claim 1, as illustrated in Figures 1 and 2, Yamazaki et al. disclose a catalyst warming control apparatus for a hybrid vehicle having an internal combustion engine (10), a generator (14) for generating electric power from the output from the internal combustion engine, a power storage unit (19) for storing electric power generated by the generator, and an electric motor (16) driven by the electric power stored in the power storage unit, the hybrid vehicle being driven by at least one of the outputs from the internal combustion engine and the motor, the catalyst warming control apparatus comprising:

- a temperature detector, (82) in Figure 4, for detecting the temperature of a catalyst (43a);
- a first comparison circuit for comparing the detected result from the temperature detector with a preset reference value (steps S308 and S310 in Figure 15); and
- a control circuit for allowing the generator to generate electric power and to store the power in the power storage unit when the internal combustion engine is driven, and when the detected result by the temperature detector is equal to or below the reference value according to the output from the comparison circuit. According to Figure 15, when the temperature of the catalyst is below a catalyst activated temperature (YES answer at step S310), the internal combustion engine is driven; and the generator is allowed to generate electric power which is stored in the power storage unit (steps S312 and S314; lines 15-34 of column 13).

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Re claim 2, the catalyst warming control apparatus of Yamazaki et al. further comprises:

- a remaining charge detector, (78) in Figure 4, for detecting a remaining charge of the power storage unit; and

- a second comparison circuit for comparing the detected result from the remaining charge detector with a preset reference value relating to the remaining charge (step S342 in Figure 20), wherein the control circuit drives the vehicle by the output from the internal combustion engine, and allows the generator to generate electric power and to store the power in the power storage unit, when the detected result from the temperature detector is equal to or below the reference value according to the output from the first comparison circuit, and when the detected result from the remaining charge detector is equal to or below the reference value (NO answer at step S342) relating to the remaining charge according to the output from the second comparison circuit (step S344; lines 20-46 of column 14).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. as applied to claims 1 and 2, respectively, above, in view of Yoshida (U.S. Patent 5,785,138).

The catalyst warming control apparatus of Yamazaki et al. cited above further comprises:

- a remaining charge detector, (78) in Figure 4, for detecting a remaining charge of the power storage unit or a value relating to the same; and
- a second comparison circuit for comparing the detected result from the remaining charge detector with a preset reference value relating to the remaining charge (step S342 in Figure 20).

Yamazaki et al., however, fail to disclose that the control circuit allows the generator to generate electric power, and drives the vehicle by the **generated electric power** and stores the electric power, when the detected result from the temperature detector is equal to or below the reference value according to the output from the first comparison circuit, and when the detected result from the remaining charge detector is **above** the reference value relating to the remaining charge according to the output from the second comparison circuit.

As shown in Figures 1 and 2, Yoshida teaches an operating method for a hybrid car, in which the controller (60) allows the generator (30) to generate electric power, and drives the vehicle by the electric motor (10) and stores the electric power, when the detected result from the temperature detector (43) is equal to or below a first reference value (step S7), and when the detected result from the remaining charge detector is **above** a second reference value relating to the remaining charge (step S3) (also see line 18 of column 11 to line 20 of column 12). It would

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have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the method taught by Yoshida in the apparatus of Yamazaki et al., since the use thereof would have provided an effective control apparatus to reduce harmful emissions from a hybrid vehicle.

Prior Art

8. The IDS (PTO-1449) filed on August 23, 2000 has been considered. An initialized copy is attached hereto.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of six patents.

- Kawashima (U.S. Patent 5,323,868) discloses a drive apparatus for a hybrid vehicle.
- Yoshida (U.S. Patent 5,327,991) discloses an exhaust gas purifying apparatus and method for a hybrid car.
- Yoshida (U.S. Patent 5,492,190) discloses an operating method for a hybrid vehicle.
- Yoshida (U.S. Patent 5,566,774) discloses an operating method for a hybrid vehicle.
- Kitada (U.S. Patent 5,588,498) discloses an electric hybrid vehicle.
- Tsuzuki et al. (U.S. Patent 5,801,499) disclose a control system for a hybrid vehicular drive unit.

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Communication

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Tu Nguyen whose telephone number is (703) 308-2833.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas E. Denion, can be reached on (703) 308-2623. The fax phone number for this group is (703) 308-7763.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

Tu M. Nguyen

TMN

Tu M. Nguyen

April 18, 2001

Patent Examiner

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Thomas Denion
THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700